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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,670	10/30/2000	Kenji Matsuo	P/1071-1201	8232

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 06/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/699,670

Applicant(s)

MATSUO ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Drawings***

- ✓ 1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cylindrical base member with a wall thickness greater than the wall thickness of the support member as disclosed in claim 12 and the vibration node disclosed in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ In claim 9, how the circular path defines a vibration node? Does the node refer to an amplitude vibration or to a section of the disk plate? Or to a particular region of the support unit?

In claim 23, the vibrator is disclosed to vibrate in the outer region, however,

✓ according to figure 1B, the vibrator also vibrates in the inner region, or is the vibrator design to only vibrate in the outer region?

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-13, 17-19, 22 and 23 are rejected under 35 U.S.C. 103(a) as obvious over Yamamoto et al in view of Thurn et al (Patent No. 5,659,220) and Osawa.

Yamamoto et al discloses a piezoelectric acoustic transducer having disk vibration plate 5, a hollow cylindrical support member 3 coupled to the disk 5, a piezoelectric element 6 coupled to the center of the disk 5. Also, Yamamoto discloses implicitly, a cylindrical base member 2 with a wall thickness greater than the wall thickness of support member 3. Also, a groove 2d is defined in the base member 2 and a damping member 3d is located in the groove 2d (see figure 1).

However, Yamamoto does not disclose explicitly having a single base member having a wall thickness greater than a wall thickness of a support member.

On the other hand, Thurn et al discloses for the purpose of improving oscillations and reducing power losses, a vibrating disk 2 been supported by a base member which has a thicker wall than the support member (see figure 1).

However, neither Yamamoto nor Thurn disclose having the support member on the cylindrical support member.

On the other hand, Osawa discloses for the purpose of reducing interference in a vibrator, a vibrating plate supported by a support member 110 and base member 121. (Fig 5)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a vibration apparatus as disclosed by Yamamoto and to modify the invention by explicitly disclosing a support member with a different wall thickness for the purpose of improving oscillations and reducing power losses and to place a support member on top of a base member for the purpose of reducing interference in a vibrator as disclosed by Osawa.

6. Claims 14-16, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto, Thorn et al and Osawa as applied to claim 1 above, and further in view of ordinary skill in the art.

The combined vibrator discloses all of the elements above. However, the combined vibrator does not disclose the material of the damping vibrator member.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the damping member softer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

*In re Leshin*, 125 USPQ 416.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 8-23 have been considered but are moot in view of the new ground(s) of rejection.

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### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

June 18, 2002

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
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